

PRELIMINARY AMENDMENT  
CHAPT II of PCT/AU00/00056

*Q5* Claim 19. (Amended) A process for producing the protein of claim 11 or 12, wherein the process comprises the step of cultivating a host cell transfected or transformed with a vector according to claim 17 under conditions suitable for expression of the polynucleotide molecule encoding the protein, and optionally recovering the expressed protein.

*Q6* Claim 22. (Amended) An oligonucleotide probe or primer comprising a nucleotide sequence that hybridizes selectively to a polynucleotide molecule according to claim 1, 2, 3 or 4.

*Q7* Claim 26. (Amended) The oligonucleotide probe or primer of claim 22, wherein the oligonucleotide probe or primer is conjugated to a detectable label.

*Q8* Claim 28. (Amended) A sunscreen formulation comprising an effective amount of a protein according to claim 11 or 12, in admixture with a suitable pharmaceutical acceptable carrier or excipient.

Claim 29. (Amended) A filter for screening UV or other wavelength(s) of incident light comprising an effective amount of a protein according to claim 11 or 12.

IN THE ABSTRACT:

Please insert the Abstract attached hereto.

REMARKS

The specification has been amended to insert formal. Claim 27 has been cancelled. The remaining claims have been amended and an Abstract has been added in order to make the application consistent with U.S. patent practice. Hence, the

**PRELIMINARY AMENDMENT**  
**CHAPT II of PCT/AU00/00056**

amendment to the specification, the cancellation of Claim 27 and the amendments to the additional claims do not constitute new matter.

The Examiner is invited to contact the undersigned at his Washington telephone number on any questions which might arise.

*Respectfully submitted,*

*Gordon Kit*

*Registration No. 30,764*

**SUGHRUE, MION, ZINN,  
MACPEAK & SEAS, PLLC**  
2100 Pennsylvania Avenue, N.W.  
Washington, D.C. 20037-3202  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

Date: August 1, 2001

A P P E N D I X

Marked-Up Version of Changes

IN THE SPECIFICATION:

The specification is amended as follows:

Page 1, before line 3, the following has been inserted

This application is a 371 of PCT/AU00/00056 filed February 2, 2001.

IN THE CLAIMS:

Claim 27 has been cancelled.

The claims have been amended as follows:

Claim 1. (Amended) An isolated polynucleotide molecule comprising a nucleotide sequence encoding a pigment protein from coral tissue (PPCT) capable of emitting fluorescence upon irradiation by incident light, wherein maximal absorbance of said incident light by said PPCT is in the range of 320-600 nm, and maximal fluorescence emission by said PPCT is in the range 300-700 nm.

Claim 2. (Amended) The isolated polynucleotide molecule of claim 1, wherein [the encoded pigment protein] said PPCT has a maximal absorbance of said incident light in the range of 550-580 nm, and a maximal fluorescence emission in the range of 400-630 nm[]].

Claim 3. (Amended) An isolated polynucleotide molecule comprising a nucleotide sequence encoding a pigment protein from coral tissue (PPCT), wherein said polynucleotide molecule comprises a nucleotide sequence encoding a protein having the N-terminal amino acid sequence:

SVIAK (SEQ ID NO:1).

Claim 4. (Amended) An isolated polynucleotide molecule comprising a nucleotide sequence encoding a pigment protein from coral tissue (PPCT), wherein said polynucleotide molecule comprises a nucleotide sequence encoding a protein having the N-terminal amino acid sequence:

SVIAKQMTYKVYMSGTV (SEQ ID NO:2).

Claim 5. (Amended) The isolated polynucleotide molecule of [any one of the preceding claims] claim 1, 2, 3 or 4, wherein [the encoded protein includes] said PPCT comprises a chromatophore region comprising the amino acid sequence: QYG.

Claim 6. (Amended) The isolated polynucleotide molecule of [any one of the preceding claims] claim 5, wherein said polynucleotide molecule comprises a nucleotide sequence encoding a protein having an amino acid sequence corresponding to the sequence shown as SEQ ID NO:3 or 4.

Claim 7. (Amended) The isolated polynucleotide molecule of [any one of the preceding claims] claim 5, wherein said polynucleotide molecule comprises a nucleotide sequence which has at least 80% identity to the sequence shown as SEQ ID NO:5 or 6.

Claim 8. (Amended) The isolated polynucleotide molecule of claim 7, wherein said polynucleotide molecule comprises a nucleotide sequence which has at least 90% identity to the sequence shown as SEQ ID NO:5 or 6.

Claim 9. (Amended) The isolated polynucleotide molecule of claim 7, wherein said polynucleotide molecule comprises a nucleotide sequence which has at least 95% identity to the sequence shown as SEQ ID NO:5 or 6.

Claim 10. (Amended) The isolated polynucleotide molecule of [any one of the preceding claims] claim 7, wherein said polynucleotide molecule comprises a nucleotide sequence substantially corresponding to the sequence shown as SEQ ID NO:5 or 6.

Claim 11. (Amended) A substantially pure protein comprising the N-terminal amino acid sequence:

SVIAK (SEQ ID NO: 1}

[, said protein being in a substantially purified form].

Claim 12. (Amended) A substantially pure protein comprising the N-terminal amino acid sequence:

SVIAKQMTYKVYMSGTVN (SEQ ID NO:2)

[, said protein being in a substantially purified form].

Claim 14. (Amended) The protein of [any one of claims 11 to 13] claim 13, wherein said protein can be purified from coral tissue from a coral family selected from the group consisting of: *Pocilloporidae*, *Acroporidae*, *Poritidae*, *Faviidae*, *Merulinidae* and *Fungiidae*.

Claim 17. (Amended) A vector comprising a polynucleotide molecule [according to any one] of [claims 1 to 10] claim 1, 2, 3 or 4.

Claim 19. (Amended) A process for producing the protein of [any one of claims] claim 11 [to 16] or 12, wherein the process comprises the step of cultivating a host cell transfected or transformed with a vector according to claim 17 under conditions suitable for expression of the polynucleotide molecule encoding the protein, and optionally recovering the expressed protein.

Claim 22. (Amended) An oligonucleotide probe or primer comprising a nucleotide sequence that [hybridises] hybridizes selectively to a polynucleotide molecule according to [any one

of claims] claim [1 to 10] 1, 2, 3 or 4.

Claim 26. (Amended) The oligonucleotide probe or primer of [any one of claims] claim 22 [to 25], wherein the oligonucleotide probe or primer is conjugated to a detectable label.

Claim 28. (Amended) A sunscreen formulation comprising an effective amount of a protein according to [any one of claims] claim 11 [to 16] or 12, in admixture with a suitable pharmaceutical acceptable carrier or excipient.

Claim 29. (Amended) A filter for screening UV or other wavelength(s) of incident light comprising an effective amount of a protein according to [any one of claims] claim 11 [to 16] or 12.

**IN THE ABSTRACT:**

A new Abstract has been inserted.